



INVESTIGATION OF A FOODBORNE OUTBREAK

This form is used to report foodborne disease outbreak investigations to CDC. A foodborne outbreak is defined as the occurrence of **two or more cases** of a similar illness resulting from the ingestion of a common food in the United States. This form has **two** parts: Part 1 asks for the minimum data needed and Part 2 asks for additional information. For this investigation to be counted in the CDC annual summary, Part 1 must be completed. **We encourage you to complete as much of Part 1 and Part 2 as you can.**

CDC USE ONLY

STATE USE ONLY

Part 1: Required Information

1. Location of Exposure: State: _____ Multi-state exposure County: _____ Multi-county exposure <i>List other states/counties in Comments, bottom of this page</i>	2. Dates: Date first case became ill: _____ Month/Day/Year Date of first known exposure: _____ Month/Day/Year Date of last known exposure: _____ Month/Day/Year	3. Numbers of Cases Exposed: Lab-confirmed cases: _____ (A) Probable cases: _____ (B) Estimated total ill: _____ <i>(If greater than sum of A+B)</i>																																													
4. Approximate Percentage of Total Cases in Each Age Group: <1 year: _____% 20-49 yrs: _____% 1-4 yrs: _____% ≥ 50 yrs: _____% 5-19 yrs: _____%	5. Sex: (Estimated percent of total cases) Male: _____% Female: _____%	6. Investigation Methods: (Check all that apply) <table style="width:100%;"> <tr> <td>Interviews of cases only</td> <td>Investigation at factory or production plant</td> </tr> <tr> <td>Case-control study*</td> <td>Investigation at original source (farm, marine estuary, etc.)</td> </tr> <tr> <td>Cohort study*</td> <td>Environment / food sample cultures</td> </tr> <tr> <td>Food preparation review</td> <td></td> </tr> <tr> <td>Food product traceback</td> <td></td> </tr> </table> <small>* Please provide OR/RR and P value for each food item.</small>	Interviews of cases only	Investigation at factory or production plant	Case-control study*	Investigation at original source (farm, marine estuary, etc.)	Cohort study*	Environment / food sample cultures	Food preparation review		Food product traceback																																				
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7. Implicated Food(s): (based on Reasons listed in Item 15 on page 3) _____ _____ _____ Could not be determined	8. Etiology: (Name the bacteria, virus, parasite, or toxin. If available, include details such as phage type, virulence factors, molecular fingerprinting, antibiogram, metabolic profile.) <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width:33%;">Etiology</th> <th style="width:33%;">Serotype (if avail.)</th> <th style="width:33%;">Other Characteristics (if avail.)</th> </tr> </thead> <tbody> <tr> <td>Confirmed*</td> <td colspan="2" rowspan="2">Isolated/identified from (check all that apply) Patient specimen(s) Food specimen(s) Environment specimen(s) Food Worker specimen(s) </td> </tr> <tr> <td>Suspected</td> </tr> <tr> <td>Unknown etiology</td> <td colspan="2"></td> </tr> <tr> <td>Multiple etiologies</td> <td colspan="2"></td> </tr> </tbody> </table> <small>* See criteria at http://www.cdc.gov/ncidod/dbmd/outbreak/ or MMWR2000/Vol 49/SS-1/Appendix B.</small>		Etiology	Serotype (if avail.)	Other Characteristics (if avail.)	Confirmed*	Isolated/identified from (check all that apply) Patient specimen(s) Food specimen(s) Environment specimen(s) Food Worker specimen(s)		Suspected	Unknown etiology			Multiple etiologies																																		
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9. Contributing Factors: (See list on page 2, check all that apply) Contributing factors unknown Contamination Factor: <table style="width:100%;"> <tr> <td>C1</td><td>C2</td><td>C3</td><td>C4</td><td>C5</td><td>C6</td><td>C7</td><td>C8</td><td>C9</td> </tr> <tr> <td>C10</td><td>C11</td><td>C12</td><td>C13</td><td>C14</td><td>C15 (describe in Comments)</td><td colspan="3">N/A</td> </tr> </table> Proliferation/Amplification Factor (bacterial outbreaks only): <table style="width:100%;"> <tr> <td>P1</td><td>P2</td><td>P3</td><td>P4</td><td>P5</td><td>P6</td><td>P7</td><td>P8</td><td>P9</td> </tr> <tr> <td>P10</td><td>P11</td><td>P12 (describe in Comments)</td><td colspan="6">N/A</td> </tr> </table> Survival Factor (microbial outbreaks only): <table style="width:100%;"> <tr> <td>S1</td><td>S2</td><td>S3</td><td>S4</td><td>S5 (describe in Comments)</td><td colspan="4">N/A</td> </tr> </table> Was food-worker implicated as the source of contamination? Yes No If yes, please check only one of following: laboratory and epidemiologic evidence epidemiologic evidence (w/o lab confirmation) lab evidence (w/o epidemiologic confirmation) prior experience makes this the likely source (please explain in Comments)		C1	C2	C3	C4	C5	C6	C7	C8	C9	C10	C11	C12	C13	C14	C15 (describe in Comments)	N/A			P1	P2	P3	P4	P5	P6	P7	P8	P9	P10	P11	P12 (describe in Comments)	N/A						S1	S2	S3	S4	S5 (describe in Comments)	N/A				10. Agency reporting this outbreak: _____ Contact Person: NAME: _____ TITLE: _____ PHONE NO: _____ FAX NO: _____ E-MAIL: _____ Date of completion of this form: _____ Month/Day/Year Initial Report Updated Report Final Report Additional data suggests this is not a foodborne outbreak
C1	C2	C3	C4	C5	C6	C7	C8	C9																																							
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Comments:

The following codes are to be used to fill out Part 1 (question 9) and Part 2 (question 15).

Contamination Factors:¹

- C1 - Toxic substance part of tissue (e.g., ciguatera)
- C2 - Poisonous substance intentionally added (e.g., cyanide or phenolphthalein added to cause illness)
- C3 - Poisonous or physical substance accidentally/incidentally added (e.g., sanitizer or cleaning compound)
- C4 - Addition of excessive quantities of ingredients that are toxic under these situations (e.g., niacin poisoning in bread)
- C5 - Toxic container or pipelines (e.g., galvanized containers with acid food, copper pipe with carbonated beverages)
- C6 - Raw product/ingredient contaminated by pathogens from animal or environment (e.g., *Salmonella enteritidis* in egg, Norwalk in shellfish, *E. coli* in sprouts)
- C7 - Ingestion of contaminated raw products (e.g., raw shellfish, produce, eggs)
- C8 - Obtaining foods from polluted sources (e.g., shellfish)
- C9 - Cross-contamination from raw ingredient of animal origin (e.g., raw poultry on the cutting board)
- C10 - Bare-handed contact by handler/worker/preparer (e.g., with ready-to-eat food)
- C11 - Glove-handed contact by handler/worker/preparer (e.g., with ready-to-eat food)
- C12 - Handling by an infected person or carrier of pathogen (e.g., *Staphylococcus*, *Salmonella*, Norwalk agent)
- C13 - Inadequate cleaning of processing/preparation equipment/utensils – leads to contamination of vehicle (e.g., cutting boards)
- C14 - Storage in contaminated environment – leads to contamination of vehicle (e.g., store room, refrigerator)
- C15 - Other source of contamination (*please describe in Comments*)

Proliferation/Amplification Factors:¹

- P1 - Allowing foods to remain at room or warm outdoor temperature for several hours (e.g., during preparation or holding for service)
- P2 - Slow cooling (e.g., deep containers or large roasts)
- P3 - Inadequate cold-holding temperatures (e.g., refrigerator inadequate/not working, iced holding inadequate)
- P4 - Preparing foods a half day or more before serving (e.g., banquet preparation a day in advance)
- P5 - Prolonged cold storage for several weeks (e.g., permits slow growth of psychophilic pathogens)
- P6 - Insufficient time and/or temperature during hot holding (e.g., malfunctioning equipment, too large a mass of food)
- P7 - Insufficient acidification (e.g., home canned foods)
- P8 - Insufficiently low water activity (e.g., smoked/salted fish)
- P9 - Inadequate thawing of frozen products (e.g., room thawing)
- P10 - Anaerobic packaging/Modified atmosphere (e.g., vacuum packed fish, salad in gas flushed bag)
- P11 - Inadequate fermentation (e.g., processed meat, cheese)
- P12 - Other situations that promote or allow microbial growth or toxic production (*please describe in Comments*)

Survival Factors:¹

- S1 - Insufficient time and/or temperature during initial cooking/heat processing (e.g., roasted meats/poultry, canned foods, pasteurization)
- S2 - Insufficient time and/or temperature during reheating (e.g., sauces, roasts)
- S3 - Inadequate acidification (e.g., mayonnaise, tomatoes canned)
- S4 - Insufficient thawing, followed by insufficient cooking (e.g., frozen turkey)
- S5 - Other process failures that permit the agent to survive (*please describe in Comments*)

Method of Preparation:²

- M1 - Foods eaten raw or lightly cooked (e.g., hard shell clams, sunny side up eggs)
- M2 - Solid masses of potentially hazardous foods (e.g., casseroles, lasagna, stuffing)
- M3 - Multiple foods (e.g., smorgasbord, buffet)
- M4 - Cook/serve foods (e.g., steak, fish fillet)
- M5 - Natural toxicant (e.g., poisonous mushrooms, paralytic shellfish poisoning)
- M6 - Roasted meat/poultry (e.g., roast beef, roast turkey)
- M7 - Salads prepared with one or more cooked ingredients (e.g., macaroni, potato, tuna)
- M8 - Liquid or semi-solid mixtures of potentially hazardous foods (e.g., gravy, chili, sauce)
- M9 - Chemical contamination (e.g., heavy metal, pesticide)
- M10 - Baked goods (e.g., pies, eclairs)
- M11 - Commercially processed foods (e.g., canned fruits and vegetables, ice cream)
- M12 - Sandwiches (e.g., hot dog, hamburger, Monte Cristo)
- M13 - Beverages (e.g., carbonated and non-carbonated, milk)
- M14 - Salads with raw ingredients (e.g., green salad, fruit salad)
- M15 - Other, does not fit into above categories (*please describe in Comments*)
- M16 - Unknown, vehicle was not identified

¹ Frank L. Bryan, John J. Guzewich, and Ewen C. D. Todd. Surveillance of Foodborne Disease III. Summary and Presentation of Data on Vehicles and Contributory Factors; Their Value and Limitations. *Journal of Food Protection*, 60; 6:701-714, 1997.

² Weingold, S. E., Guzewich JJ, and Fudala JK. Use of foodborne disease data for HACCP risk assessment. *Journal of Food Protection*, 57; 9:820-830, 1994.

Part 2: Additional Information (Please complete as much as possible)

11. Numbers of: <table border="1" style="width:100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 40%;">OUTCOME / SYMPTOM</th> <th style="width: 20%;">Cases with Outcome / Symptom</th> <th style="width: 40%;">Total cases for whom you have information available</th> </tr> </thead> <tbody> <tr><td>Healthcare Provider Visit</td><td></td><td></td></tr> <tr><td>Hospitalization</td><td></td><td></td></tr> <tr><td>Death</td><td></td><td></td></tr> <tr><td>Vomiting</td><td></td><td></td></tr> <tr><td>Diarrhea</td><td></td><td></td></tr> <tr><td>Bloody stools</td><td></td><td></td></tr> <tr><td>Feverish</td><td></td><td></td></tr> <tr><td>Abdominal cramps</td><td></td><td></td></tr> <tr><td>*</td><td></td><td></td></tr> <tr><td>*</td><td></td><td></td></tr> <tr><td>*</td><td></td><td></td></tr> <tr><td>*</td><td></td><td></td></tr> </tbody> </table>			OUTCOME / SYMPTOM	Cases with Outcome / Symptom	Total cases for whom you have information available	Healthcare Provider Visit			Hospitalization			Death			Vomiting			Diarrhea			Bloody stools			Feverish			Abdominal cramps			*			*			*			*			12. Incubation Period: <div style="text-align: center;">(circle appropriate units)</div> Shortest: _____ (Hours, days) Longest: _____ (Hours, days) Median: _____ (Hours, days) Unknown		13. Duration of Acute Illness Among Those Who Recovered: <div style="text-align: center;">(circle appropriate units)</div> Shortest: _____ (Hours, days) Longest: _____ (Hours, days) Median: _____ (Hours, days) Unknown	
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			<p>* Use the following terms, if appropriate, to describe other common characteristics of cases:</p> <table style="width:100%;"> <tr> <td style="width: 33%;">anaphylaxis</td> <td style="width: 33%;">descending paralysis</td> <td style="width: 33%;">myalgia</td> </tr> <tr> <td>arthralgia</td> <td>flushing</td> <td>paresthesia</td> </tr> <tr> <td>bradycardia</td> <td>headache</td> <td>septicemia</td> </tr> <tr> <td>bullous skin lesions</td> <td>hemolytic uremic syndrome (HUS)</td> <td>sore throat</td> </tr> <tr> <td>bradycardia</td> <td>hypotension</td> <td>tachycardia</td> </tr> <tr> <td>cough</td> <td>itching</td> <td>thrombocytopenia</td> </tr> <tr> <td>coma</td> <td>jaundice</td> <td>temperature reversal</td> </tr> <tr> <td>diplopia</td> <td>lethargy</td> <td>urticaria</td> </tr> <tr> <td></td> <td></td> <td>wheezing</td> </tr> </table>			anaphylaxis	descending paralysis	myalgia	arthralgia	flushing	paresthesia	bradycardia	headache	septicemia	bullous skin lesions	hemolytic uremic syndrome (HUS)	sore throat	bradycardia	hypotension	tachycardia	cough	itching	thrombocytopenia	coma	jaundice	temperature reversal	diplopia	lethargy	urticaria			wheezing													
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14. If Cohort Investigation Conducted: Event-specific Attack Rate = _____ / _____ x 100 = _____ % <div style="display: flex; justify-content: space-around; font-size: small;"> # ill total # of persons for whom you have illness info. </div>																																													
15. Implicated Food(s): (Please provide known information.)																																													
Name of Food	Main Ingredients	Contaminated Ingredient	Reason(s) Suspected (see below)	Method of Preparation (see list on page 2)																																									
e.g., lasagna	pasta, sauce, eggs, beef	eggs	4	M1																																									
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Reason Suspected (choose all that apply): <div style="display: flex; justify-content: space-between;"> <div style="width: 45%;"> 1 - Statistical evidence from epidemiological investigation** 2 - Laboratory evidence (e.g., identification of agent in food) 3 - Compelling supportive information </div> <div style="width: 45%;"> 4 - Other data (e.g., same phage type found on farm that supplied eggs) 5 - Specific evidence lacking but prior experience makes this likely source ** If the reason suspected is #1, please attach the statistical evidence. </div> </div>																																													
16. Where was Food Prepared? (Check all that apply)			17. Where was Food Eaten? (Check all that apply)																																										
<div style="display: flex;"> <div style="width: 50%;"> Restaurant or deli Day care center School Church, temple, etc. Camp Caterer Grocery store Hospital Workplace cafeteria Nursing home </div> <div style="width: 50%;"> Prison, jail Private home Picnic Fair, festival, other temporary/mobile service Contaminated food imported into U.S. Commercial product, served without further preparation Other (please describe) _____ </div> </div>			<div style="display: flex;"> <div style="width: 50%;"> Restaurant or deli Day care center School Church, temple, etc. Camp Grocery Store Hospital Workplace cafeteria </div> <div style="width: 50%;"> Nursing home Prison, jail Private home Picnic Fair, festival, or mobile location Other (please describe) _____ </div> </div>																																										
18. Other Available Info: Unpublished agency report (please attach) Epi-Aid Publication (please reference) _____ Not available		19. Remarks: Briefly describe important aspects of the outbreak not covered above (e.g., restaurant closure, product recall, immunoglobulin administration, economic impact, etc.) 																																											

State Health Departments: Please FAX this document to Foodborne and Diarrheal Diseases, DBMD, CDC, at (404) 639-2205.